Appendix A – Trophic discrimination factors used for mixing model analysis, sensitivity comparisons, and comparison with a range of species-specific trophic discrimination factors found in the literature.

Table 1 – Trophic Discrimination Factors

Model	**Category**	**Source**	**Carbon ($\delta^{13}C$)**	**Nitrogen ($\delta^{15}N$)**	**Sulfur ($\delta^{34}S$)**
Invertebrate	Invertebrate (Primary Consumer)	McCutchan et al. 2003	0.4±1.2 ‰	2.3±1.61 ‰	n/a
	Invertebrate (Omnivore)	McCutchan et al. 2003	0.6±1.47 ‰	3.45±1.97 ‰	n/a
	Invertebrate (Predator)	McCutchan et al. 2003	0.8±1.7 ‰	4.6±2.28 ‰	n/a
Fish	Fish (base)	McCutchan et al. 2003	1.1±0.35 ‰	2.8±0.40 ‰	1.9±0.51‰
	Fish (base + Inv Omni)	McCutchan et al. 2003	1.7±1.51 ‰	6.25±2.01 ‰	2.65±2.45 ‰
Sensitivity Comparison	Invertebrate (Primary Consumer)	Vander Zanden and Rasmussen 2001	-0.41±1.14 ‰	2.52±2.5 ‰	n/a
	Invertebrate (Predator) [Shrimps]	Vander Zanden and Rasmussen 2001	0.3±1.54 ‰	7.01±2.53 ‰	n/a
	Fish (base + Inv Omni)	Vander Zanden and Rasmussen 2001	0.3±1.54 ‰	7.01±2.53 ‰	n/a
Range of Values Reported From Additional Taxa-Specific Literature	Invertebrate (Primary Consumer)	Sagers & Goggin 2007, de Carbalho et al. 2015, Dionne et al. 2016	-4.9 to 8.5	-0.88 to 7.2	No Data
	Invertebrate (Omnivore)	Mancinelli 2012, Tiselius & Fransson 2016, Remy et al. 2018, Umezawa et al. 2018	0.2 to 2.6	0.6 to 4.48	No Data
	Invertebrate (Predator)	de Carbalho et al. 2015	-1.5 to 1.25	-0.01 to 9.05	No Data
	Fish (base)	Bastos et al. 2017, Blanke et al. 2017	-0.57 to 1.6	1.77 to 4.78	No Data

Table 2 – Sensitivity Results. Average and maximum refer to discrepancy between models based on different trophic discrimination factors.

Subregion	Season	Source	Invertebrates		Fish	
			Average	Maximum	Average	Maximum
ULN	Summer	BuMa_ScAc	0.7%	1.5%	0.2%	1.2%
		CeDe_EgDe	1.4%	2.2%	5.3%	13.1%
		GFA	1.5%	2.6%	2.1%	6.3%
		JuBa_ScCa	1.4%	3.7%	3.0%	19.6%
		MySp	2.5%	3.4%	4.3%	23.1%
		Phyto	2.1%	4.9%	2.5%	7.9%
		Tysp_IrPs	0.5%	0.7%	3.9%	10.5%
UCA	Spring	BD	1.4%	3.8%	1.1%	4.4%
		CeDe_MySp	1.9%	2.6%	19.4%	38.4%
		Phyto	3.8%	7.4%	20.3%	33.8%
		ScCa_L	3.3%	7.3%	2.8%	11.9%
		ScCa_U	2.6%	3.0%	2.4%	16.9%

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